

Notice of Allowability

Application No.

08/962,315

Examiner

Shawn S An

Applicant(s)

HOUSE, GREGORY

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/11/2004.

2. ☒ The allowed claim(s) is/are 20-31.

3. ☒ The drawings filed on 31 October 1997 are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of the:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

Reasons for Allowance

1. As per Applicant's instruction as filed on 8/11/04, claims 1-19 have been canceled, and claims 20-31 have been newly added.
2. Claims 20-31 have been allowed.
3. The following is an Examiner's statement of reasons for allowance:
Claims 20-31 recite novel features for an apparatus/method for measuring a distance to an object, comprising:
 - a first camera for producing a first image of the object;
 - a second camera for producing a second image of the object, the second camera being spaced apart from the first camera along a common baseline and having a different viewing angle than the first camera, wherein the second camera having a resolution that is greater than the resolution of the first camera and/or the second camera having a field of view that is less than the field of view of the first camera, such that pixel units of the image produced by the first camera represent a greater amount of the object than pixel units of the image produced by the second camera; and
 - a data processing section performing processing comprising:
 - producing a set of sampled images, each of the sampled images being produced by sampling pixels of the second image at given intervals beginning at respective different locations in the second image for each sampled image;
 - calculating a set of distances to the object corresponding to the set of sampled images, each distance being calculated based on the positions of the cameras on the common baseline, the directions of the first and second cameras with respect to the common baseline, and the locations of a common point on the object in the first image and the respective sampled image;
 - calculating a set of indexes, each respective index being representative of the degree of appropriateness of a distance corresponding to one of the sampled images;
 - and

selecting one of the respective distances to the object based on the index associated with its corresponding sampled image.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The prior art of records fails to anticipate or make obvious the novel features as discussed above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A) Auty et al (5,809,161), Vehicle monitoring system.

B) Subbarao (4,965,840), Method and apparatus for determining distances between surface patches of a three dimensional spatial scene and a camera system.

C) Robinson (5,751,450), Method and system for measuring color difference.

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Shawn S. An** whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).

6. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SSA

Primary Patent Examiner

9/21/2004